Sîmon ascribes the amazing intelligence and precocity of Chinese children. With regard to higher education, it is open to all. The Government give barely the necessary expenses; the rest is contributed by private donors and by the students themselves, of whom there is always an abundance. The directing staff is paid by Government, the teaching staff by the students. Those who wish to enter the public service are trained and examined at the Hanlin College or University of Pekin. All appointments are given to the graduates according to their degrees; the higher the degree the more honourable and lucrative the post. The graduate takes precedence of all minor officials, and ranks with a minister or viceroy, whose post he frequently fills when he has had a little experience in public life. He has rooms allotted to him in the palatial universities. For these degrees the competition is very severe. All the professions stand on an equal footing, except those of teaching and letters. In no country is the man of letters of such influence as in China. Old age alone makes others as worthy of respect as he. Whenever M. Sîmon found the Chinese distrustful or indifferent to him, he always humoured this opinion of their value of learned men, by seeking out the most learned man in the place and paying his respects to him. The tutor retains a life-long power over his pupil, and frequently the people, when they have had some cause of complaint against an official, have sent long distances to bring his tutor to expostulate with him. The great goal of the literary man is to obtain a public post, such posts being held in high esteem in China. There are few vacancies, however, and the vast majority of candidates being unsuccessful become tutors, public writers, &c.; others turn their talents to commerce and agriculture, and so elevate the educational standard of the industrial classes. Labour is so honourable that handicraftsmen rank as high in public estimation as lawyers and doctors.

M. Sîmon sums up his views of Chinese civilization, of which a few examples have been given here, by stating that the fact which always seemed to him the most wonderful "was the progressive substitution of individual for collective action in all the works of civilization, from the simplest to the most complex, from mental to material. The individual freed from the slavery of collectivity, independent, and free in unity, thanks to that unity, is the salient fact apparent from the study of the relations between the people and the Government in China, and appears to me to justify the theories prevalent there." Very few readers who possess a personal acquaintance with China and the Chinese will be found to agree with all of M. Sîmon's statements of fact, or with all of his conclusions from them. But he has nevertheless produced a book which deserves to be carefully studied, and which will strike the mind by the originality of its propositions and the skill and ingenuity with which they are defended. In these days, when the Chinese are treated amongst many highly civilized communities in different parts of the globe with loathing and scorn, and when elective Legislatures do not hesitate to speak of members of the Chinese race as *hostes humani generis*, it is perhaps well to be reminded, as M. Sîmon forcibly reminds us, that this race has solved, apparently with success, some of the social and political problems before which Western statesmen and philosophers stand helpless.

THE METHOD OF CREATION.

The Creator, and what we may know of the Method of Creation. The Fernley Lecture of 1887. By W. H. Dallinger, LL.D., F.R.S. (London: T. Woolmer, 1887.)

IT is not the province of this journal to deal with theological questions; at the same time, the one discussed in this volume is in such close relation with science, and of such universal interest, that a brief sketch of Dr. Dallinger's argument may be permitted. He deals with a question which takes precedence of those sundering Churches—one which may briefly be stated thus: Have the recent advances in physical and biological science placed the Theist in an unreasonable position? Obviously this is a fundamental question. If the answer be in the affirmative, all investigations into the minutiæ of theology are less than the shadows of a shade.

Dr. Dallinger commences by pointing out the necessary limits of scientific inquiry. On this he insists, not in any hostile spirit, but only because it is so often forgotten. "The researches of science are physical. The observable finite contents of space and time are the subjects of its analysis. Existence, not the cause of existence; succession, not the reason of succession; method, not the origin of method, are the subjects of physical research. A primordial cause cannot be the subject of experiment nor the object of demonstration. It must for ever transcend the most delicate physical reaction, the profoundest analysis, and the last link in the keenest logic. Absolute knowledge concerning it can only be the prerogative of itself."

This, of course, is a position which many so-called Agnostics would frankly accept. But in working out the argument the author indicates that a more definite creed is attainable. Commencing with the physical universe, he shows that whatever discoveries have been made, whatever simplifications introduced into the so-called laws of which it is the result, the physicist is at last arrested by two mysteries—matter and force. But what are these, "the alpha and omega of existence" as some would call them? They are two names, and nothing more. We deal with the properties or qualities of matter, with the consequences of force, but we are no nearer to knowing the one or the other. In addition to these, however, many hard-headed thinkers assert "the existence of a third thing in the universe—to wit, consciousness." Now we may juggle as we please with these terms, we may construct on them elaborate systems explanatory of the universe; but beyond laws either mechanical or vital there lies inevitably, however we may try to smother it by words, the idea of causation; and from this idea that of "volition" cannot be separated. We are, as the author shows in an elaborate argument, reduced at last to this alternative: "either chance or mental purpose gave primal origin to all that is." The former he shows is almost inexpressibly improbable: most men will not hesitate to accept the latter.

Considerable space is next devoted to a discussion of Mr. Herbert Spencer's view that "from matter in motion, and nothing else, the whole universe is supposed to arise; life emerges; and mind in its most transcendent forms comes forth." In this discussion we are again confronted

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with an alternative: either the primordial matter was in a state of homogeneity, and so "infinitely incapable of change," or the homogeneity was disturbed by some external force. But an outside influence is not in the philosophic system. "The admission of inability to evolve the universe without it is an admission that the mechanical philosophy fails at the outset. Nor can it serve the emergency to invoke 'force.' A Divine origin of the universe is usually rejected, because the Divinity eludes the methods of science. But we cannot supplant the Divinity by enthroning force. Science can tell us what force *does*, but it can no more find out what force *is* than what an infinite mind is. Force is an irresistible mental inference from matter in motion, but its ultimate nature is defiantly beyond the reach of science."

The phenomena of life, as exhibited in one of the lower and more minute organisms, are then considered. These are "free and self-originating action"; multiplication; and cyclic change in each new organism. Tiny and humble in organization as these creatures are, they differ vastly from chemical compounds of any kind. The force which animates them differs widely from any mode of force which we call physical. So far as we at present know, the break between "life and not life" is abrupt. Hence, whether or not in the remote past the transition from the one to the other may have been what we should call continuous, our present knowledge offers no explanation of it, and the fact is a stumbling-block in the way of a purely mechanical philosophy.

The remainder of the essay is chiefly devoted to a discussion of the theological aspect of the theory of evolution. This, as designed for the non-scientific part of his audience, need not be further mentioned in these pages. It will be enough to say that, as is now generally admitted by the more intelligent among theologians, he maintains that there is no necessary antagonism between their beliefs and scientific theories.

As might be expected from him, Dr. Dallinger is temperate in expression and eloquent in language. Some readers perhaps would have preferred a little more conciseness in style and statement, but it must be borne in mind that the discourse was delivered as a lecture to a non-scientific audience, who required leading gradually, or even alluring, into unfamiliar paths of thought. Among such persons the book cannot fail to do excellent work in allaying needless fear and silencing ignorant clamour; among opponents it will serve to show that the Theist's position is more defensible than they suppose, and that, in their own, unsuspected difficulties lurk beside the seemingly easy path of a euphonious terminology.

OUR BOOK SHELF.

The Harpur Euclid. Book I. By E. M. Langley and W. S. Phillips. (Rivingtons, 1888.)

THE editors are mathematical masters of two Bedford schools under the Harpur Trust; hence the title. For the work itself the title-page further informs us that it is an edition of Euclid's "Elements" revised in accordance with the Reports of the Cambridge Board of Mathematical Studies, and the Oxford Board of the Faculty of Natural Science. Extracts from these Reports are given in a prefatory note: this is the only part of the work which is not strictly adapted for the use of school-boys.

We began our task with no special liking for it, but had not proceeded far when we found that there were new adornments which rendered our perusal of the familiar lines very agreeable. We read on through 102 out of the 120 pages without break, and then ceased, as we had come to some matters which required more careful examination. The editors have kept to the usual sequence, but in many cases have replaced the Simsonian demonstrations by easier ones, and have discarded much of the superfluous matter which has led anti-Euclidians to inveigh so strongly against the "Elements."

We are glad to see that exercises come in right from the outset; these all seem to have been most carefully selected, and are such as a fairly intelligent boy ought to be able to solve from the previous propositions. We refer here to the examples in the body of the book. Frequent reference is made to that excellent, though perhaps hardly sufficiently appreciated, little book of Prof. Henrici, "Congruent Figures," and to the "Syllabus" of the Association for the Improvement of Geometrical Teaching. At the end, as a kind of appendix, are some judicious sections on properties of triangles, on quadrilaterals, on loci, on solving geometrical problems—(1) method of intersection of loci; (2) method of intersection of sets; (3) method of analysis and synthesis. Considerable pains has been bestowed on the arrangement of the text, the selection of the various types, and the drawing of the figures; in fact, the little book is the beau-ideal of a Euclid for boys. We wish we had had such a book in the "auld lang syne," and then our first perusal would not have been so painful. It is the authors' intention to bring out the successive books in like form. We wish them like success, and trust that their venture will find a welcome in many a school.

A Course of Quantitative Analysis for Students. By W. N. Hartley, F.R.S. (London: Macmillan and Co., 1887.)

AFTER the almost infinite number of books, mostly small, "and mostly to meet certain requirements of our own students" on qualitative analysis, it is a relief to meet with a small book for students—beginners—on quantitative analysis, written evidently for beginners, and in a manner to really lead them up from qualitative notions, not by one great bound, but by good sober practice and order, to the appreciation of the care and exactitude, and most important still, the "criticising" state of mind necessary to make a real analytical chemist.

As the author says in his preface: "To be a good analyst does not necessitate a profound knowledge of chemistry;" but any student who has worked at all well through this little book will have a good platform of knowledge under him, and be in a position to enlarge his knowledge with infinitely greater ease, and that very necessary regard for accuracy which is not possible to a student who has not done any quantitative work.

The author begins in a sensible manner by giving the metric weights and measures, with English equivalents, and then the dimensions of various laboratory apparatus, beakers, &c., and all this is very useful. In the introduction, manipulation and reagents are dealt with. The author might have added the use of folded or plaited filters. It is quite as safe and accurate to use them for quantitative purposes as to employ a pump.

Before proceeding to simple estimations of constituents of salts, &c., we have about twenty pages of introductory examples devised with the intention of enabling students to realize the meaning of the atomic and equivalent weights of elements; which they do not always do when put on to determinations without any introduction. This is the most useful and original part of the book. The following exercises, "simple estimations," are fairly in order of difficulty. The middle portion of the book is on volumetric analysis. It is short but workable, and is followed

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